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                  Index
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 NEWS  5  Oct 15  Calculated properties now in the REGISTRY/ZREGISTRY File
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 NEWS  8  Oct 29  AAASD no longer available
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 NEWS 10  Nov 19  TOXCENTER(SM) - new toxicology file now available on STN
 NEWS 11  Nov 29  COPPERLIT now available on STN
 NEWS 12  Nov 29  DWPI revisions to NTIS and US Provisional Numbers
 NEWS 13  Nov 30  Files VETU and VETB to have open access
 NEWS 14  Dec 10  WPINDEX/WPIDS/WPIX New and Revised Manual Codes for 2002
 NEWS 15  Dec 10  DGENE BLAST Homology Search
 NEWS 16  Dec 17  WELDASEARCH now available on STN
 NEWS 17  Dec 17  STANDARDS now available on STN
 NEWS 18  Dec 17  New fields for DPCI
 NEWS 19  Dec 19  CAS Roles modified
 NEWS 20  Dec 19  1907-1946 data and page images added to CA and CAplus
 NEWS 21  Jan 25  BLAST(R) searching in REGISTRY available in STN on the Web
 NEWS 22  Jan 25  Searching with the P indicator for Preparations
 NEWS 23  Jan 29  FSTA has been reloaded and moves to weekly updates
 NEWS 24  Feb 01  DKILIT now produced by FIZ Karlsruhe and has a new update
                  frequency
 NEWS 25  Feb 19  Access via Tymnet and SprintNet Eliminated Effective 3/31/02
 NEWS 26  Mar 08  Gene Names now available in BIOSIS

 NEWS EXPRESS  February 1 CURRENT WINDOWS VERSION IS V6.0d,
               CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
               AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
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=> s rehydrat?
L1          4714 REHYDRAT?

=> d l1 and lipid(w)membrane?
'AND' IS NOT A VALID FORMAT FOR FILE 'CA'
'LIPID(W)MEMBRANE?' IS NOT A VALID FORMAT FOR FILE 'CA'

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ABS --------- GI and AB
ALL --------- BIB, AB, IND, RE
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BIB --------- AN, plus Bibliographic Data and PI table (default)
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              structure diagram, plus NTE and SEQ fields
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FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
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L1   ANSWER 1 OF 4714  CA  COPYRIGHT 2002 ACS
TI   Method of producing tissue structures based on biocompatible polymers


=> s l1 and lipid(w)membrane?
        202926 LIPID
        599618 MEMBRANE?
          7993 LIPID(W)MEMBRANE?
L2          12 L1 AND LIPID(W)MEMBRANE?

=> d all 1-12

L2   ANSWER 1 OF 12  CA  COPYRIGHT 2002 ACS
AN   135:335059  CA
TI   Liposomes encapsulating prednisolone and prednisolone-cyclodextrin
     complexes: comparison of membrane integrity and drug release
AU   Fatouros, D. G.; Hatzidimitriou, K.; Antimisiaris, S. G.
CS   Department of Pharmacy, Laboratory of Pharmaceutical Technology, School of
     Health Sciences, University of Patras, Patras, 26500, Greece
SO   European Journal of Pharmaceutical Sciences (2001), 13(3), 287-296
     CODEN: EPSCED; ISSN: 0928-0987
PB   Elsevier Science Ireland Ltd.
DT   Journal
```

LA English
CC 63-5 (Pharmaceuticals)
AB Inclusion complexes of prednisolone (PR) with .beta.-cyclodextrin (.beta.-CD) and hydroxypropyl-.beta.-cyclodextrin (HP.beta.-CD) were formed by the solvation method, and were characterized by DSC, x-ray diffractometry and FT-IR spectroscopy. PC liposomes incorporating PR as plain drug or inclusion complex were prepd. using the dehydration-**rehydration** method and drug entrapment as well as drug release were estd. for all liposome types prepd. The highest PR entrapment value (80% of the starting material) was achieved for PC/Chol liposomes when the HP.beta.-CD-PR (2:1, mol/mol) complex was entrapped. The leakage of vesicle encapsulated 5,6-carboxyfluorescein (CF) was used as a measure of the vesicle membrane integrity. As judged from our exptl. results liposomes which encapsulate .beta.-CD-PR complexes are significantly less stable (when their membrane integrity is considered) compared to liposomes of identical lipid compns. which incorporate plain drug or even (in some cases) non-drug incorporating liposomes, which were prepd. and studied for comparison. Interestingly, liposomes which encapsulate HP.beta.-CD-PR complexes, have very low initial CF latency values, indicating that the leakage of CF is a process of very high initial velocity. Interactions between lipid and cyclodextrin mols. may be possibly resulting in rapid reorganization of the **lipid membrane** with simultaneous fast release of CF mols. The release of PR from liposomes was highest when the drug was entrapped in the form of a complex with .beta.-CD. Nevertheless, the very high entrapment ability of PR in the form of HP.beta.-CD-PR complexes in comparison to plain drug is a indubitable advantage of this approach.
ST prednisolone cyclodextrin complex liposome
IT Dissolution rate
Encapsulation
(liposomes encapsulating prednisolone and prednisolone-cyclodextrin complexes)
IT Inclusion compounds
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes encapsulating prednisolone and prednisolone-cyclodextrin complexes)
IT Drug delivery systems
(liposomes; liposomes encapsulating prednisolone and prednisolone-cyclodextrin complexes)
IT 50-24-8, Prednisolone
RL: PRP (Properties); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes encapsulating prednisolone and prednisolone-cyclodextrin complexes)
IT 57-55-6D, 1,2-Propanediol, ether with .beta.-cyclodextrin, complex with prednisolone 7585-39-9D, .beta.-Cyclodextrin, hydroxypropyl ether, complex with prednisolone 370094-76-1
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposomes encapsulating prednisolone and prednisolone-cyclodextrin complexes)
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L2 ANSWER 2 OF 12 CA COPYRIGHT 2002 ACS
AN 135:269016 CA
TI The effect of arbutin on membrane integrity during drying is mediated by stabilization of the lamellar phase in the presence of nonbilayer-forming lipids
AU Oliver, A. E.; Hincha, D. K.; Tsvetkova, N. M.; Vigh, L.; Crowe, J. H.
CS Section of Molecular and Cellular Biology, University of California, Davis, CA, 95616, USA
SO Chem. Phys. Lipids (2001), 111(1), 37-57
CODEN: CPLIA4; ISSN: 0009-3084
PB Elsevier Science Ireland Ltd.
DT Journal
LA English
CC 6-6 (General Biochemistry)
Section cross-reference(s): 11
AB Arbutin (4-hydroxyphenyl-.beta.-glucopyranoside) is a solute accumulated to high concns. in drought and frost resistant plants. Arbutin can inhibit membrane lysis, both free radical-mediated and enzymic in nature, and it has been suggested that arbutin might contribute to membrane stabilization in these plants. However, we found that arbutin destabilized phosphatidylcholine vesicles during drying and **rehydration**, which appears to be inconsistent with the proposed protective function of arbutin for membranes. We also found, however, that arbutin stabilizes membranes contg. nonbilayer-forming lipids during freezing. We now report that, in liposomes contg. the nonbilayer-forming lipids monogalactosyldiacylglycerol (MGDG) or phosphatidylethanolamine (PE), arbutin served a protective function during drying, as measured by retention of carboxyfluorescein (CF) and extent of vesicle fusion. In hydrated samples contg. these lipids, arbutin stabilized the lamellar liq. cryst. phase. Therefore, the interaction between arbutin and **lipid membranes** and the resulting effects on membrane stability depend, in a complex manner, on the lipid compn. of the membrane.
ST arbutin membrane integrity lamellar phase lipid stabilization dessication tolerance
IT Osmolality
(arbutin effect on membrane integrity during drying in relation to)
IT Liposomes
Membrane, biological
(arbutin effect on membrane integrity during drying is mediated by stabilization of lamellar phase in presence of nonbilayer-forming lipids)
IT Lipids, biological studies
Phosphatidylcholines, biological studies
Phosphatidylethanolamines, biological studies
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)

(arbutin effect on membrane integrity during drying is mediated by stabilization of lamellar phase in presence of nonbilayer-forming lipids)

IT Stress, plant
(dessication; arbutin effect on membrane integrity during drying is mediated by stabilization of lamellar phase in presence of nonbilayer-forming lipids)

IT Membrane phase transition, biological
(hexagonal II-lamellar; arbutin effect on membrane integrity during drying is mediated by stabilization of lamellar phase in presence of nonbilayer-forming lipids)

IT Diglycerides
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(monogalactosyl; arbutin effect on membrane integrity during drying is mediated by stabilization of lamellar phase in presence of nonbilayer-forming lipids)

IT Organelle
(vesicle; arbutin effect on membrane integrity during drying is mediated by stabilization of lamellar phase in presence of nonbilayer-forming lipids)

IT 57-50-1, SUCROSE, biological studies 99-20-7, Trehalose 7447-40-7, Potassium chloride, biological studies 9005-27-0, Hydroxyethyl starch
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(effect on membrane integrity during drying)

IT 497-76-7, Arbutin
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(effect on membrane integrity during drying is mediated by stabilization of lamellar phase in presence of nonbilayer-forming lipids)

RE.CNT 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L2 ANSWER 3 OF 12 CA
AN 131:98984 CA
TI Stabilizing effect of an s-layer on liposomes towards thermal or mechanical stress
AU Mader, C.; Kupcu, S.; Sara, M.; Sleytr, U. B.
CS Zentrum fur Ultrastrukturforschung und Ludwig Boltzmann-Institut fur Molekulare Nanotechnologie, Universitat fur Bodenkultur Wien, Vienna, A-1180, Austria
SO Biochim. Biophys. Acta (1999), 1418(1), 106-116
CODEN: BBACAQ; ISSN: 0006-3002
PB Elsevier Science B.V.
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB Isolated subunits of the cryst. cell surface layer (S-layer) protein of Bacillus stearothermophilus PV72/p2 were recrystd. on pos. charged unilamellar liposomes. Liposomes were composed of dipalmitoylphosphatidylcholine (DPPC), cholesterol and hexadecylamine (HDA) in a molar ratio of 10:5:4 and they were prepd. by the dehydration-**rehydration** method followed by an extrusion procedure. The S-layer protein to DPPC ratio was 5.7 nmol/.mu.mol which approx. corresponds to the theor. value estd. by using the areas occupied by the S-layer lattice and the **lipid membrane**. Coating of the pos. charged liposomes with S-layer protein resulted in inversion of the .zeta.-potential from +29.1 mV to -27.1 mV. Covalent crosslinking of the recrystd. S-layer protein was achieved with glutaraldehyde. Chem. anal. revealed that almost all amino groups (> 95%) from HDA in the liposomal membrane were involved in the reaction. To study the influence

of an S-layer lattice on the stability of the liposomes, the hydrophilic marker carboxyfluoresceine (CF) was encapsulated and its release was detd. for plain and S-layer-coated liposomes in the course of mech. and thermal challenges. In comparison to plain liposomes, S-layer-coated liposomes released only half the amt. of enclosed CF upon exposure to shear forces or ultrasonication as mech. stress factors. Furthermore, temp. shifts from 25.degree. to 55.degree. and vice versa induced considerably less CF release from S-layer-coated than from plain liposomes. A similar stabilizing effect of the S-layer lattice was obsd. after glutaraldehyde treatment of plain and S-layer-coated liposomes.

ST S layer protein liposome stabilization

IT Proteins, specific or class
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(S-layer (surface layer); stabilizing effect of S-layer on liposomes towards thermal or mech. stress)

IT Electric potential
(biol.; stabilizing effect of S-layer on liposomes towards thermal or mech. stress)

IT Stability
(stabilizing effect of S-layer on liposomes towards thermal or mech. stress)

IT Liposomes
(unilamellar; stabilizing effect of S-layer on liposomes towards thermal or mech. stress)

IT 57-88-5, Cholesterol, biological studies 63-89-8, Dipalmitoylphosphatidylcholine 143-27-1, 1-Hexadecanamine
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(stabilizing effect of S-layer on liposomes towards thermal or mech. stress)

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(35) Wetzer, B; Langmuir 1998, V14, P6899 CA

L2 ANSWER 4 OF 12 CA COPYRIGHT 2002 ACS
AN 124:5774 CA
TI A chloride channel from human placenta reconstituted into giant liposomes
AU Riquelme, Gloria; Stutzin, Andres; Barros, Luis Felipe; Liberona, Jose Luis
CS Facultad de Medicina, Universidad de Chile, Santiago, 7, Chile
SO Am. J. Obstet. Gynecol. (1995), 173(3, Pt. 1), 733-8
CODEN: AJOGAH; ISSN: 0002-9378
DT Journal
LA English
CC 13-6 (Mammalian Biochemistry)
AB Ion channels play important roles in epithelial transport, but they are difficult to access for conventional electrophysiol. studies in intact placenta. The purpose of this work was to explore the suitability of purified trophoblast plasma membrane as a source of ion channels for reconstitution in artificial **lipid membranes**. Human placental brush border membranes were purified by differential and gradient centrifugation and fused with small liposomes. Giant liposomes were then generated by a cycle of dehydration and **rehydration**. These giant liposomes are suitable for electrophysiol. studies and were probed for the presence of active ion channels by the patch-clamp method. The results reported here indicate the presence of a high conductance chloride channel showing some similarities with "maxi" chloride channels described in secreting and absorbing epithelia. The channel had a slight outward rectification with conductances of 232 and 300 pS at neg. and pos. potentials, resp. For the first time successful reconstitution of a human placental ion channel is achieved in a system suited for electrophysiol. studies. The chloride channel described might play a role in transplacental transport.
ST chloride channel placenta reconstitution liposome
IT Brush border
(brush border membrane in reconstitution of human placental ion channel in giant liposomes)
IT Liposome
Placenta
(reconstitution of human placental ion channel in giant liposomes)
IT Cell membrane
Trophoblast
(trophoblast plasma membrane in reconstitution of human placental ion channel in giant liposomes)
IT Ion channel
(chloride, reconstitution of human placental ion channel in giant liposomes)
IT 16887-00-6, Chloride, biological studies
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(reconstitution of human placental ion channel in giant liposomes)

L2 ANSWER 5 OF 12 CA COPYRIGHT 2002 ACS
AN 119:23204 CA
TI The effects of beryllium on the electrostatic and thermodynamic properties of the dipalmitoyllecithin membranes
AU Ermakov, Yu. A.; Mahmudova, S. S.; Shevchenko, E. V.; Lobyshev, V. I.
CS Frumkin A. N., Inst. Electrochem., Moscow, Russia
SO Biol. Membr. (1993), 10(2), 212-24
CODEN: BIMEE9; ISSN: 0233-4755
DT Journal
LA Russian
CC 6-6 (General Biochemistry)
Section cross-reference(s): 4
AB The boundary potential at the **lipid membrane** /electrolyte interface consists of two components: surface potential

.phi.s and dipole component .phi.d. The first one is included in the widely used Gouy-Chapman-Stern formalism to explain the electrostatic phenomena, the second one is sensitive to the orientation effects of lipid polar groups and water mols. Both components were studied with a combination of electrophoretic measurements in the liposome suspension, sensitive to .phi.s and by the method of the inner membranous field compensation in the planar **lipid membranes** sensitive to changes in the sum .phi.s + .phi.d. It is shown that both potentials and the thermotropic properties of the DPPC membranes depend on the divalent cation adsorption and beryllium is the most effective cation. The boundary potential components .phi.s and .phi.d are changed in opposite directions at the lipid phase transition temps. A new pool of lipids proportional to surface area occupied by cations is obsd. by calorimetry and has the phase transition temp. depending on cation surface concn. The comparison of the data obtained in the electrolytes prepd. with normal water and D2O reveals strong isotope effects. It is concluded that the cation adsorption is accompanied by **rehydration** processes and structural modifications of the **lipid membrane** surface.

ST beryllium dipalmitoylphosphatidylcholine bilayer potential phase transition

IT Phosphatidylcholines, biological studies
RL: BIOL (Biological study)
(bilayer membrane, electrostatic and thermotropic properties of, beryllium effect on)

IT Heat of transition
(gel-liq. cryst., of dipalmitoylphosphatidylcholine bilayer, beryllium effect on)

IT Hydration, chemical
(of dipalmitoylphosphatidylcholine bilayer membrane, beryllium effect on)

IT Isotope effect
(on dipalmitoylphosphatidylcholine bilayer membrane phase transition in beryllium presence, of deuterium)

IT Membrane, biological
(bilayer, dipalmitoylphosphatidylcholine, electrostatic and thermotropic properties of, beryllium effect on)

IT Cations
(divalent, dipalmitoylphosphatidylcholine bilayer membrane electrostatic and thermotropic properties response to)

IT Membrane phase transition, biological
(gel-liq. cryst., of dipalmitoylphosphatidylcholine bilayer, beryllium effect on)

IT Electric activity
(potential, dipolar, of dipalmitoylphosphatidylcholine bilayer membrane, in beryllium presence, phase transition effect on)

IT Electric activity
(potential, surface, of dipalmitoylphosphatidylcholine bilayer membrane, in beryllium presence, phase transition effect on)

IT Membrane phases, biological
(sepn., of dipalmitoylphosphatidylcholine bilayer, beryllium induction of)

IT 63-89-8
RL: BIOL (Biological study)
(bilayer membrane, electrostatic and thermotropic properties of, beryllium effect on)

IT 7440-41-7, Beryllium, biological studies
RL: BIOL (Biological study)
(dipalmitoylphosphatidylcholine bilayer membrane electrostatic and thermotropic properties response to)

IT 7782-39-0, Deuterium, biological studies
RL: PRP (Properties)
(isotope effect of, on dipalmitoylphosphatidylcholine bilayer membrane phase transition in beryllium presence)

L2 ANSWER 6 OF 12 CA COPYRIGHT 2002 ACS
AN 118:229767 CA
TI Roles of water molecules in bacteria and viruses
AU Cox, C. S.
CS Chem. Biol. Def. Establ., Porton Down/Salisbury, SP4 0JQ, UK
SO Origins Life Evol. Biosphere (1993), 23(1), 29-36
CODEN: OLEBEM; ISSN: 0169-6149
DT Journal; General Review
LA English
CC 10-0 (Microbial, Algal, and Fungal Biochemistry)
AB A review with 3 refs. In addn. to water, microbes mainly comprise lipids, carbohydrates, proteins, and nucleic acids. Their structure and function singularly and conjointly are affected by water activity. Desiccation leads to dramatic lipid phase changes, whereas carbohydrates, proteins, and nucleic acids initially suffer spontaneous, reversible low activation energy Maillard reactions forming products that more slowly rearrange, crosslink, etc., to give nonnative states. While initial products spontaneously may reverse to native states by raising water activity, later products only do so through energy consumption and enzymic activity (e.g., repair). Yet, native states of **lipid membranes** and assocd. enzymes are required to generate energy. Consequently, good reserves of high energy compds. (e.g., ATP) and of membrane stabilizers (e.g., trehalose) may be expected to enhance survival following drying and **rehydration** (e.g., anhydrobiotic organisms).
ST review water bacteria virus
IT Bacteria
Virus
(water in, roles of)
IT 7732-18-5, Water, biological studies
RL: BIOL (Biological study)
(in bacteria and viruses, roles of)

L2 ANSWER 7 OF 12 CA COPYRIGHT 2002 ACS
AN 118:35221 CA
TI The cryoprotective mechanism of saccharides on freezing and freeze-drying of liposomes
AU Miyajima, Koichiro; Tanaka, Keiko
CS Fac. Pharm. Sci., Kyoto Univ., Kyoto, 606, Japan
SO Trends Glycosci. Glycotechnol. (1992), 4(19), 457-63
CODEN: TGGLEE; ISSN: 0915-7352
DT Journal; General Review
LA English
CC 9-0 (Biochemical Methods)
Section cross-reference(s): 6
AB A review with 9 refs. about studying the title mechanism by several methods, such as leakage of aq. inner marker, Raman- and NMR-spectroscopy, and DSC. The surface of frozen liposome was covered by a concd. aq. saccharide soln. or glassy solid, which protects from the mech. damage of ice crystal and the fusion of liposome. Mono-, di-, and trisaccharides showed a similar protective effect per monosaccharide unit. In the course of drying, the water mols. hydrated to the polar phosphate group of lecithin were displaced by the saccharide mols. In the liq. crystal state the lyophilized liposome was maintained and the **lipid membrane** was stable during the **rehydration** process. The liposome lyophilized with a disaccharide showed the strongest stability during the **rehydration** process, indicating the importance of hydrogen bonding between the phosphate group and a sugar mol. with suitable mol. size.
ST review liposome freeze drying saccharide; cryoprotectant liposome saccharide review
IT Monosaccharides
Oligosaccharides
RL: PRP (Properties)
(cryoprotective mechanism of, on freezing and freeze drying of liposomes)

IT Liposome
(freezing and freeze drying of, cryoprotective mechanism of saccharides on)
IT Freeze drying
Freezing
(of liposomes, cryoprotective mechanism of saccharides in)
IT Cryoprotectants
(saccharides, in freezing and freeze drying of liposome)

L2 ANSWER 8 OF 12 CA COPYRIGHT 2002 ACS
AN 110:179517 CA
TI Liver-targeted pharmaceutical liposomes containing iminoacetic acid-chromium-hepatobiliary targeting agent coordination compounds
IN Geho, W. Blair; Lau, John R.
PA USA
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K049-00
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8800474	A1	19880128	WO 1986-US1421	19860710
	W: AU, BR, DK, FI, GB, JP, KR, LK, NL, NO, SE				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8661413	A1	19880210	AU 1986-61413	19860710
	AU 607682	B2	19910314		
	EP 274467	A1	19880720	EP 1986-904629	19860710
	EP 274467	B1	19920520		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 01500747	T2	19890316	JP 1986-503988	19860710
	FI 8801042	A	19880307	FI 1988-1042	19880307
	DK 8801256	A	19880309	DK 1988-1256	19880309
	DK 169502	B1	19941114		
	NO 8801058	A	19880510	NO 1988-1058	19880309
PRAI	WO 1986-US1421		19860710		

AB Pharmaceuticals comprise a diagnostic agent, a **lipid membrane** structure in form of a vesicle or liposome and a component comprising a fatty substituent attached to the vesicle wall and a target-seeking substituent selected from a class of chems. that have a high affinity to hepatobiliary receptors. A delivery system comprising a serotonin-contg. lipid vesicle, a connector [N-(2,6-diisopropylphenylcarbamoylmethyl)iminoacetic acid, Hepatolite], a bridge (Cr), and a hepatobiliary target-seeking agent (biliveridin) was prepd. A lipid film contg. distearoyl lecithin 69.12, iminodiacetic acid complex (Hepatolite) 1.07, dicetyl phosphate 14.1, and cholesterol 5.0 mg was **rehydrated** with a mixt. contg. phosphate buffer, human serum albumin, and serotonin. Unencapsulated serotonin and albumins were removed and the vesicles were treated with a 5-fold molar excess of CrCl3, excess CrCl3 was subsequently removed, and the vesicles were treated with a 5-fold molar excess of connector mols., and finally, excess connector mols. were also removed. The vesicles thus prepd. were connected to biliverdin to give a hepatocyte-directed drug delivery vesicle. A dog in a state of net hepatic glucose output was infused with 0.3 .mu.g/kg per min serotonin-charged hepatocyte-directed vesicle; the hepatic glucose output was converted to hepatic uptake and the uptake was maintained for 30 min after the serotonin infusion was discontinued. Liver storage of glucose eaten during meal requires not only insulin but also serotonin. Hepatolite itself can also be used as hepatobiliary target-seeking agent.
ST liver targeted liposome drug bioavailability
IT Receptors
RL: BIOL (Biological study)

(hepatobiliary, coordination compds. with iminodiacetic acid and chromium, liver-targeted liposomes contg.)

IT Drug bioavailability
(in liver, targeted liposomes for, contg. coordination compds. of chromium and iminodiacetic acid and hepatobiliary targeting agents)

IT Albumins, biological studies
Hormones
RL: BIOL (Biological study)
(liver-targeted pharmaceutical liposomes contg. iminodiacetic acid-chromium-hepatobiliary targeting agent coordination compds. and)

IT Liver
(targeted liposomes for, contg. coordination compds. of chromium and iminodiacetic acid and hepatobiliary receptors)

IT Diabetes mellitus
(treatment of, liver-targeted pharmaceutical insulin-contg. liposomes for)

IT Liver
(hepatocyte, targeted drug delivery to, with liposomes contg. iminodiacetic acid-chromium-hepatobiliary receptor targeting agent coordination compds.)

IT Pharmaceutical dosage forms
(liposomes, liver-targeted, contg. iminodiacetic acid-chromium-hepatobiliary targeting agent coordination compds.)

IT Diabetes mellitus
(maturity-onset, treatment of, liver-targeted pharmaceutical insulin-contg. liposomes for)

IT 114-25-0D, chromium complexes 142-73-4D, Iminodiacetic acid, complexes with chromium and hepatobiliary target-seeking agents 7440-47-3D, Chromium, hepatolite-biliverdin complex 120093-62-1D, complexes with chromium and hepatobiliary targeting agents
RL: BIOL (Biological study)
(liver-targeted pharmaceutical liposomes contg.)

IT 50-67-9, Serotonin, biological studies 57-88-5, Cholesterol, biological studies 2197-63-9, Dicetyl phosphate 4539-70-2, Distearoyl lecithin 9002-72-6, Growth hormone 9004-10-8, Insulin, biological studies
RL: BIOL (Biological study)
(liver-targeted pharmaceutical liposomes contg. iminodiacetic acid-chromium-hepatobiliary targeting agent complexes and)

IT 7440-47-3D, Chromium, complexes with hepatobiliary targeting agents and iminodiacetate
RL: BIOL (Biological study)
(liver-targeted pharmaceutical liposomes contg. pharmaceuticals)

L2 ANSWER 9 OF 12 CA COPYRIGHT 2002 ACS
AN 106:143922 CA
TI Lyophilized liposomes prepared by a modified reversed-phase evaporation method
AU Handa, Tetsurou; Takeuchi, Hirofumi; Ohokubo, Yuichi; Kawashima, Yoshiaki
CS Gifu Pharm. Univ., Gifu, 502, Japan
SO Chem. Pharm. Bull. (1987), 35(2), 748-55
CODEN: CPBTAL; ISSN: 0009-2363
DT Journal
LA English
CC 63-6 (Pharmaceuticals)
AB A modification of the reversed-phase evapn. method (modified REV method) was developed for the prepn. of lyophilized unilamellar liposomes. The encapsulation efficiencies of the liposomes after a dehydration (lyophilization)-**rehydration** procedure were satisfactorily high, and the liposome sizes were maintained nearly const. throughout the procedure. These results are different from those obtained with liposome samples prepd. by the reversed-phase evapn. method. In the latter case, marked enlargement of liposome size and extensive leakage from liposomes were obsd. The small amt. of residual ether in the modified REV liposomes keeps the **lipid membranes** fluid even at freezing temp.
The fluidity is considered to play an important role in the protection of

liposomes against aggregation, fusion and leakage.
ST lyophilization liposome reversed phase evapn
IT Phosphatidylcholines, biological studies
RL: BIOL (Biological study)
(liposomes contg., prepn. of lyophilized, by modified reversed-phase evapn.)
IT Evaporation
(liposomes prepd. by modified reversed-phase)
IT Liposome
(lyophilized, modified reversed phase evapn. in prepn. of)
IT Freeze drying
(of liposomes prepd. by modified reversed phase evapn.)
IT Pharmaceutical dosage forms
(liposomes, prepn. of lyophilized, by modified reversed phase evapn.)
IT 57-88-5, Cholesterol, biological studies 124-30-1, Stearylamine
3614-36-6, Diacetyl phosphate
RL: BIOL (Biological study)
(liposomes contg., prepn. of lyophilized, by modified reversed-phase evapn.)

L2 ANSWER 10 OF 12 CA COPYRIGHT 2002 ACS
AN 97:19414 CA
TI Encapsulation of macromolecules by lipid vesicles under simulated prebiotic conditions
AU Deamer, David W.; Barchfeld, Gail L.
CS Univ. California, Davis, CA, 95616, USA
SO J. Mol. Evol. (1982), 18(3), 203-6
CODEN: JMEVAU; ISSN: 0022-2844
DT Journal
LA English
CC 6-6 (General Biochemistry)
AB Phospholipid vesicles (liposomes) were subjected to dehydration-hydration cycles in the presence of 6-carboxyfluorescein or salmon sperm DNA. The vesicles fused into multilamellar structures during dehydration with solutes trapped between the lamellae. On **rehydration** the lamellae swelled and formed large vesicular structures contg. solute. This model can be used to study encapsulation of macromols. by **lipid membranes** to form protocellular structures under prebiotic conditions.
ST phospholipid liposome encapsulation DNA carboxylfluorescein; evolution phospholipid liposome encapsulation macromol
IT Hydration, chemical
(-dehydration, of phosphatidylcholine liposome in macromol. encapsulation, evolution in relation to)
IT Dehydration, chemical
(-hydration, of phosphatidylcholine liposome in macromol. encapsulation, evolution in relation to)
IT Phosphatidylcholines, biological studies
RL: BIOL (Biological study)
(liposome, macromol. encapsulation by, evolution in relation to)
IT Encapsulation
(of macromols., by phosphatidylcholine liposomes, evolution in relation to)
IT Deoxyribonucleic acids
RL: BIOL (Biological study)
(phosphatidylcholine liposome encapsulation of, evolution in relation to)
IT Liposome
(phosphatidylcholine, macromol. encapsulation by, evolution in relation to)
IT Evolution
(prebiotic, phosphatidylcholine liposome encapsulation of carboxyfluorescein or DNA in relation to)
IT 3301-79-9
RL: BIOL (Biological study)

(phosphatidylcholine liposome encapsulation of, evolution in relation to)

L2 ANSWER 11 OF 12 CA COPYRIGHT 2002 ACS
AN 94:98380 CA
TI Protein-lipid interactions in biological and model membrane systems. Deuterium NMR of Acholeplasma laidlawii B, Escherichia coli, and cytochrome oxidase systems containing specifically deuterated lipids
AU Kang, Shyue-Yue; Kinsey, Robert A.; Rajan, Srinivasan; Gutowsky, Herbert S.; Gabridge, Michael G.; Oldfield, Eric
CS Dep. Chem., Univ. Illinois, Urbana, IL, 61801, USA
SO J. Biol. Chem. (1981), 256(3), 1155-9
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 6-13 (General Biochemistry)
AB 2H NMR spectra of A. laidlawii B (PG9) membranes and lipid exts. enriched biosynthetically in the presence of avidin, with either [14-2H3]tetradecan-1-oic acid, [16-2H3]hexadecan-1-oic acid, [4-2H2]-, [6-2H2]-, or [8-2H2]-tetradecan-1-oic acids, were recorded at a variety of temps. At their growth temp. the A. laidlawii membrane lipids are .apprx.90% in a rigid gel-like state. Plasma membranes which had been lyophilized, then **rehydrated**, behaved in the 2H NMR expt. as did fresh plasma membranes. The 2H NMR quadrupole splittings (.DELTA..nu.Q) were very similar for all of the fluid phase spectra recorded. These results indicate that protein has little effect on lipid order in the A. laidlawii B membrane system. The 2H-quadrupole splittings obsd. for the tetradecanoic acid-enriched membranes were within exptl. error the same as those obsd. previously for bilayers of pure 1,2-myristoyl-sn-glycero-3-phosphocholine (DMPC) when examd. immediately above the end of the solid-to-fluid phase transition temp. range. Relatively small decreases in order in the DMPC mol. were seen using cytochrome oxidase as a model membrane protein at high protein to lipid ratio, the effects being largest near the chain terminus (C12-C14). By contrast, 2H NMR spectra of the hexadecan-1-oic acid-enriched Escherichia coli L48-2 cell membranes showed extreme line broadening compared to spectra of their lipid exts., and .DELTA..nu.Q values were slightly decreased. Results with intact E. coli cell membranes show essentially the same NMR line shapes as those seen previously with the DMPC-gramidicin A' system including collapsed terminal Me group quadrupole splittings and large (4-6 kHz) line widths of methylene segment chain resonances.
ST cytochrome oxidase **lipid membrane**; Acholeplasma membrane lipid protein; Escherichia membrane lipid protein; protein lipid interaction membrane NMR
IT Proteins
RL: BIOL (Biological study)
(lipid interactions with, in plasma membranes of Acholeplasma and Escherichia)
IT Acholeplasma laidlawii
Escherichia coli
(lipid-protein interactions in plasma membrane of)
IT Cell membrane
(lipid-protein interactions in, of Acholeplasma and Escherichia)
IT Nuclear magnetic resonance
(of deuterium, of plasma membranes of Acholeplasma and Escherichia)
IT Order
(of plasma membrane lipids of Acholeplasma and Escherichia)
IT Lipids
RL: BIOL (Biological study)
(protein interactions with, in plasma membranes of Acholeplasma and Escherichia)
IT 18194-24-6
RL: BIOL (Biological study)
(cytochrome oxidase interaction with, in model membranes)
IT 9001-16-5

RL: BIOL (Biological study)
(lecithin interaction with, in model membranes)
IT 57-10-3, biological studies 544-63-8, biological studies
RL: BIOL (Biological study)
(Acholeplasma plasma membranes enriched in, lipid-protein interactions in)

L2 ANSWER 12 OF 12 CA COPYRIGHT 2002 ACS
AN 92:112612 CA
TI Improving and storage stability of aqueous dispersions of spherules by lyophilization
IN Vanlerberghe, Guy; Handjani, Rose Marie
PA L-Oreal, Fr.
SO Brit. UK Pat. Appl., 7 pp.
CODEN: BAXXDU
DT Patent
LA English
IC B01J013-00
CC 45-4 (Fats and Waxes)
Section cross-reference(s): 62, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2013609	A	19790815	GB 1979-3477	19790201
	GB 2013609	B2	19821208		
	FR 2416008	A1	19790831	FR 1978-2927	19780202
	FR 2416008	B1	19810626		
	ES 477351	A1	19791216	ES 1979-477351	19790131
	US 4247411	A	19810127	US 1979-8115	19790131
	BE 873865	A1	19790801	BE 1979-193210	19790201
	NL 7900822	A	19790806	NL 1979-822	19790201
	DE 2904047	A1	19790913	DE 1979-2904047	19790202
	DE 2904047	C2	19900419		
	DE 2954558	C2	19900517	DE 1979-2954558	19790202
PRAI	FR 1978-2927		19780202		

AB Aq. dispersions of 100-50,000-.ANG.-diam. liposomes with an encapsulated aq. phase contg. an active substance, e.g. a cosmetic or pharmaceutical, were stabilized for storage by lyophilization and reconstituted by **rehydration**. Thus, C16H33[OCH2CH(CH2OH)]nOH [72920-85-5] (av. n = 3) 190, cholesterol [57-88-5] 190, and Na dicetyl phosphate [60285-46-3] 20 mg were mixed at 90.degree., cooled to 70.degree., and homogenized with 2.5 mL 2% aq. Na L-pyrrolidonecarboxylate (I) [28874-51-3]. The homogenized mixt. was ultrasonically dispersed 30 min in a further 7.5 mL 2% aq. I to give a fluid dispersion contg. .apprx.1-.mu.-diam. liposomes. The dispersion was cooled in liq. N and lyophilized 12 h to form a storage-stable, white, pasty product which on **rehydration** with >3.5 mL H2O gave liposomes of the same diam. as the original ones.
ST liposome stabilization lyophilization; encapsulation cosmetic liposome storage; pharmaceutical encapsulation liposome storage; **lipid membrane** spherule storage
IT Lecithins, compounds
RL: USES (Uses)
(hydrogenated, liposomes contg., stabilization of, lyophilization in)
IT Membranes and Diaphragms
(lipid, stabilization of, lyophilization in)
IT Cosmetics
Pharmaceuticals
(liposome-encapsulated, stabilization of, lyophilization in)
IT Freeze drying
(of liposomes, stabilization by)
IT Liposome
(stabilization of, lyophilization in relation to)
IT Immunoglobulins
RL: USES (Uses)

```
        (A, liposomes contg., stabilization of, lyophilization in)
IT   Alcohols, compounds
     RL: USES (Uses)
        (lanolin, hydrogenated, ethers with oligomeric poly(glycerol ether),
        liposomes contg., stabilization of, by lyophilization)
IT   50-81-7, uses and miscellaneous   56-81-5, uses and miscellaneous
     57-88-5, uses and miscellaneous   72-17-3   9054-89-1   28874-51-3
     60285-46-3   72920-21-9
     RL: USES (Uses)
        (liposomes contg., stabilization of, lyophilization in)
IT   72920-85-5   72920-88-8D, monoethers, with hydrogenated lanolin alcs.
     RL: USES (Uses)
        (oligomeric, liposomes contg., stabilization of, lyophilization in)


=> b biosis
COST IN U.S. DOLLARS                                 SINCE FILE      TOTAL
                                                          ENTRY    SESSION
FULL ESTIMATED COST                                       35.28      35.43

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)           SINCE FILE      TOTAL
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=> s l2
          4668 REHYDRAT?
        193563 LIPID
        772819 MEMBRANE?
          4697 LIPID(W)MEMBRANE?
L3           8 L1 AND LIPID(W)MEMBRANE?

=> s l3 not l2
          4668 REHYDRAT?
        193563 LIPID
        772819 MEMBRANE?
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L4           0 L3 NOT L2

=> b medline
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 SUBSTANCE IDENTIFICATION.

=> s l2
          3789 REHYDRAT?
        138368 LIPID
        568357 MEMBRANE?
          2604 LIPID(W)MEMBRANE?
L5           6 L1 AND LIPID(W)MEMBRANE?

=> s l5 not l2
          3789 REHYDRAT?
        138368 LIPID
        568357 MEMBRANE?
          2604 LIPID(W)MEMBRANE?
L6           0 L5 NOT L2

=> b uspatfull
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.32      36.52

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)            SINCE FILE      TOTAL
                                                           ENTRY    SESSION
CA SUBSCRIBER PRICE                                         0.00      -7.08

FILE 'USPATFULL' ENTERED AT 14:19:56 ON 09 MAR 2002
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 7 Mar 2002 (20020307/PD)
FILE LAST UPDATED: 7 Mar 2002 (20020307/ED)
HIGHEST GRANTED PATENT NUMBER: US6353930
HIGHEST APPLICATION PUBLICATION NUMBER: US2002029398
CA INDEXING IS CURRENT THROUGH 7 Mar 2002 (20020307/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 7 Mar 2002 (20020307/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2001
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2001

>>>  USPAT2 is now available.  USPATFULL contains full text of the       <<<
>>>  original, i.e., the earliest published granted patents or           <<<
>>>  applications.  USPAT2 contains full text of the latest US           <<<
>>>  publications, starting in 2001, for the inventions covered in       <<<
>>>  USPATFULL.  A USPATFULL record contains not only the original       <<<
>>>  published document but also a list of any subsequent                <<<
>>>  publications.  The publication number, patent kind code, and        <<<
>>>  publication date for all the US publications for an invention       <<<
>>>  are displayed in the PI (Patent Information) field of USPATFULL     <<<
>>>  records and may be searched in standard search fields, e.g., /PN,   <<<
>>>  /PK, etc.                                                            <<<

>>>  USPATFULL and USPAT2 can be accessed and searched together          <<<
>>>  through the new cluster USPATALL.  Type FILE USPATALL to            <<<
>>>  enter this cluster.                                                  <<<
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>>>                                                                      <<<
>>>  Use USPATALL when searching terms such as patent assignees,         <<<
>>>  classifications, or claims, that may potentially change from        <<<
>>>  the earliest to the latest publication.                             <<<

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s l2
          5750 REHYDRAT?
         28549 LIPID
        150714 MEMBRANE?
          1248 LIPID(W)MEMBRANE?
L7         137 L1 AND LIPID(W)MEMBRANE?

=> s l7 and ionophore?
          2675 IONOPHORE?
L8          15 L7 AND IONOPHORE?

=> d ti 1-15

L8   ANSWER 1 OF 15  USPATFULL
TI     Release of therapeutic agents in a vessel or tissue

L8   ANSWER 2 OF 15  USPATFULL
TI     Method of producing an electrode membrane combination

L8   ANSWER 3 OF 15  USPATFULL
TI     Self assembly of sensor membranes

L8   ANSWER 4 OF 15  USPATFULL
TI     Liposome drug-loading method and composition

L8   ANSWER 5 OF 15  USPATFULL
TI     Method of producing a first layer electrode membrane for a biosensor

L8   ANSWER 6 OF 15  USPATFULL
TI     Methods and apparatus for making liposomes containing hydrophobic drugs

L8   ANSWER 7 OF 15  USPATFULL
TI     Encapsulation of antineoplastic agents in liposomes

L8   ANSWER 8 OF 15  USPATFULL
TI     Gas and gaseous precursor filled microspheres as topical and
       subcutaneous delivery vehicles

L8   ANSWER 9 OF 15  USPATFULL
TI     Methods and apparatus for making liposomes

L8   ANSWER 10 OF 15  USPATFULL
TI     Fusogenic lipsomes and methods for making and using same

L8   ANSWER 11 OF 15  USPATFULL
TI     Stable plurilamellar vesicles

L8   ANSWER 12 OF 15  USPATFULL
TI     Encapsulation of antineoplastic agents in liposomes

L8   ANSWER 13 OF 15  USPATFULL
TI     Stable plurilamellar vesicles

L8   ANSWER 14 OF 15  USPATFULL
TI     Means of preparation and applications of liposomes containing high
       concentrations of entrapped ionic species
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L8   ANSWER 15 OF 15  USPATFULL
TI      Lipid vesicles bearing carbohydrate surfaces as lymphatic directed
        vehicles for therapeutic and diagnostic substances


=> d cit 2 3 5
'CIT' IS NOT A VALID FORMAT FOR FILE 'USPATFULL'

The following are valid formats:

The default display format is STD.

ABS -------- AB
ALL -------- AN, TI, IN, INA, PA, PAA, PAT, PI, AI, PTERM, DCD,
             RLI, PRAI, DT, FS, REP, REN, EXNAM, LREP, CLMN, ECL,
             DRWN, AB, GOVI, PARN, SUMM, DRWD, DETD, CLM, INCL,
             INCLM, INCLS, NCL, NCLM, NCLS, IC, ICM, ICS,
             EXF, ARTU
ALLG ------- ALL plus PAGE.DRAW
BIB -------- AN, TI, IN, INA, PA, PAA, PAT, PI, AI, PTERM, DCD, RLI,
             PRAI, DT, FS, EXNAM, LREP, CLMN, ECL, DRWN, LN.CNT
BIB.EX ----- BIB for original and latest publication
BIBG ------- BIB plus PAGE.DRAW
BROWSE ----- See "HELP BROWSE" or "HELP DISPLAY BROWSE".  BROWSE must
             entered on the same line as DISPLAY, e.g., D BROWSE.
CAS -------- OS, CC, SX, ST, IT
CBIB ------- AN, TI, IN, INA, PA, PAA, PAT, PI, AI, PRAI, DT, FS
DALL ------- ALL, delimited for post-processing
FP --------- PI, TI, IN, INA, PA, PAA, PAT, PTERM, DCD, AI, RLI,
             PRAI, IC, ICM, ICS, INCL, INCLM, INCLS, NCL,
             NCLM, NCLS, EXF, REP, REN, ARTU, EXNAM, LREP,
             CLMN, DRWN, AB
FP.EX ------ FP for original and latest publication
FPALL ------ PI, TI, IN, INA, PA, PAA, PAT, PETRM, DCD, AI,
             RLI, PRAI, IC, ICM, ICS, INCL, INCLM, INCLS, NCL, NCLM,
             NCLS, EXF, REP, REN,ARTU, EXNAM, LREP, CLMN, DRWN, AB,
             PARN, SUMM, DRWD, DETD, CLM
FPBIB ------ PI, TI, IN, INA, PA, PAA, PAT, PTERM, DCD, AI,
             RLI, PRAI, REP, REN, EXNAM, LREP, CLM, CLMN, DRWN
FHITSTR ---- HIT RN, its text modification, its CA index name, and
             its structure diagram
FPG -------- FP plus PAGE.DRAW
GI --------- PN and page image numbers
HIT -------- All fields containing hit terms
HITRN ------ HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and
             its structure diagram
IABS ------- ABS, indented with text labels
IALL ------- ALL, indented with text labels
IALLG ------ IALL plus PAGE.DRAW
IBIB ------- BIB, indented with text labels
IBIB.EX ---- IBIB for original and latest publication
IBIBG ------ IBIB plus PAGE.DRAW
IMAX ------- MAX, indented with text labels
IMAX.EX ---- IMAX for original and latest publication
IND -------- INCL, INCLM, INCLS, NCL, NCLM, NCLS, IC, ICM, ICS,
             EXF, ARTU, OS, CC, SX, ST, IT
ISTD ------- STD, indented with text labels
KWIC ------- All hit terms plus 20 words on either side
MAX -------- AN, TI, IN, INA, PA, PAA, PAT, PI, AI, PTERM, DCD,
             RLI, PRAI, DT, FS, REP, REN, EXNAM, LREP, CLMN, ECL,
             DRWN, AB, GOVI, PARN, SUMM, DRWD, DETD, CLM, INCL,
             INCLM, INCLS, NCL, NCLM, NCLS, IC, ICM, ICS,
             EXF, ARTU OS, CC, SX, ST, IT
MAX.EX ----- MAX for original and latest publication
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OCC -------- List of display fields containing hit terms
SBIB ------- AN, TI, IN, INA, PA, PAA, PAT, PI, AI, RLI, PRAI,
             DT, FS, LN.CNT
SCAN ------- AN, TI, NCL, NCLM, NCLS, IC, ICM, ICS (random display
             without answer number.  SCAN must be entered on the
             same line as DISPLAY, e.g., D SCAN)
STD -------- AN, TI, IN, INA, PA, PAA, PAT, PI, AI, RLI, PRAI,
             DT, FS, LN.CNT, INCL, INCLM, INCLS, NCL, NCLM, NCLS,
             IC, ICM, ICS, EXF (STD is the default)
STD.EX ----- STD for original and latest publication
TRIAL ------ AN, TI, INCL, INCLM, INCLS, NCL, NCLM, NCLS, IC,
             ICM, ICS

ENTER DISPLAY FORMAT (STD):bib

L8   ANSWER 2 OF 15  USPATFULL
AN      2002:19170  USPATFULL
TI      Method of producing an electrode membrane combination
IN      Raguse, Burkhard, St. Ives, AUSTRALIA
        Pace, Ronald John, Homebush, AUSTRALIA
        King, Lionel George, Merefield, AUSTRALIA
        Braach-Maksvytis, Vijoleta Lucija, Dulwich Hill, AUSTRALIA
        Cornell, Bruce, Neutral Bay, AUSTRALIA
PA      Australian Membrane and Biotechnology Research Institute, Chattsworth,
        AUSTRALIA (non-U.S. corporation)
PI      US 6342346          B1   20020129
AI      US 1999-262097           19990304 (9)
RLI     Division of Ser. No. US 685329, now patented, Pat. No. US 5879878
PRAI    AU 1995-3669        19950620
DT      Utility
FS      GRANTED
EXNAM   Primary Examiner: Chin, Christopher L.
LREP    Gottlieb, Rackman & Reisman, P.C.
CLMN    Number of Claims: 22
ECL     Exemplary Claim: 1
DRWN    23 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 916
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8   ANSWER 3 OF 15  USPATFULL
AN      2001:157987  USPATFULL
TI      Self assembly of sensor membranes
IN      Raguse, Burkhard, St. Ives, Australia
        Pace, Ronald John, Homebush, Australia
        King, Lionel George, Morefield, Australia
        Braach-Maksvytis, Vijoleta Lucija, Dulwich Hill, Australia
        Cornell, Bruce, Neutral Bay, Australia
PA      Australian Membrane and Biotechnology Research Institute, Chattsworth,
        Australia (non-U.S. corporation)
PI      US 6291155          B1   20010918
AI      US 1999-262098           19990304 (9)
RLI     Division of Ser. No. US 685329, now patented, Pat. No. US 5879878
PRAI    AU 1995-3669        19950620
DT      Utility
FS      GRANTED
EXNAM   Primary Examiner: Chin, Christopher L.
LREP    Gottlieb, Rackman & Reisman, P.C.
CLMN    Number of Claims: 40
ECL     Exemplary Claim: 1
DRWN    23 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 1003
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8   ANSWER 5 OF 15  USPATFULL
AN      1999:30564  USPATFULL
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TI      Method of producing a first layer electrode membrane for a biosensor
IN      Raguse, Burkhard, St. Ives, Australia
        Pace, Ronald John, Homebush, Australia
        King, Lionel George, Marafield, Australia
        Braach-Makavytie, Vijoleta Licija, Dulwich Hill, Australia
        Cornell, Bruce, Neutral Bay, Australia
PA      Australian Membrane and Biotechnology Research Institute, Chatswood,
        Australia (non-U.S. corporation)
        The University of Sydney, Sydney, Australia (non-U.S. corporation)
PI      US 5879878              19990309
AI      US 1996-685329          19960723 (8)
PRAI    AU 1995-3669        19950620
        WO 1996-AU369       19960620
DT      Utility
FS      Granted
EXNAM   Primary Examiner: Chin, Christopher L.
LREP    Gottlieb, Rackman & Reisman, P.C.
CLMN    Number of Claims: 15
ECL     Exemplary Claim: 1
DRWN    23 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 920
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


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